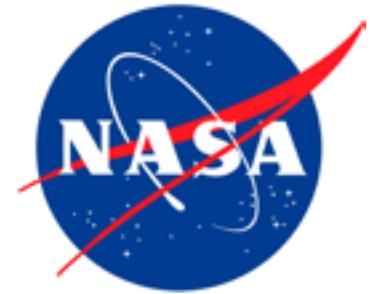


# Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

[www.nasa.gov/centers/kennedy/news/snews/spnews\\_toc.html](http://www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html)



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# Workforce Transition Office opens

As Kennedy prepares to fly out the final space shuttle mission later this year, the center's Human Resources Operations Office is working to make sure all employees, NASA and contractor, are as informed and prepared as possible.

"As the space shuttle approaches retirement, we are working very closely with Brevard Workforce and others to provide future job opportunities for this immensely talented workforce," said Kennedy's Associate Director for Business Operations Jim Hattaway. "Opening the Workforce Transition Office is another important step in that direction."

The WTO, in Headquarters Room 1486A, officially opened its doors March 1. Scott Larchar, a shuttle test project engineer with United Space Alliance, and Nick Herren, an engineer with ASRC Aerospace, were among the first to utilize the office's services.

"It's important to me for the opportunity to pursue employment with the U.S. government and understand the process," Larchar said.

WTO will be open Monday through Friday from 8 a.m. to 4:30 p.m. to help employees like Larchar look for new work, perhaps work that's already available. The office also will be accepting appointments between 7 and 8 a.m., as well as 5 and 7 p.m.

"Currently, there are 30,000 to 37,000 federal



NASA/Jim Grossmann

David Wilson, left, chief of the Human Resources Operations Office, speaks with a worker during the grand opening of Kennedy's Workforce Transition Office in the Headquarters Building. The new office will offer assistance to center employees seeking federal jobs.

jobs in the U.S. and other countries listed on the USAJOBS ([www.usajobs.gov](http://www.usajobs.gov)) Web site," said David Wilson, chief of the Human Resources Operations Office.

Tracy Anania, director of NASA Human Resources said the Human Resources staff will supplement the Brevard Workforce office at Kennedy by helping with phone calls and referrals.

"Opening the Workforce Transition Office is important for two reasons," Anania said. "First, we can share our expertise to guide people through the unique federal job search and application process, and the

other is the personal transition services we can refer people to, including courses in financial and real estate planning so that Kennedy employees have access to comprehensive transition assistance."

To increase clarity and maintain constant communication, Human Resources also created a Web site called VOICE where employees can find answers to all their questions. VOICE includes a blog and links to many internal and external transition resources and can be found at <http://kscvoice>.

Hattaway said, "Our employees are our most important asset and we will

continue to do everything we can to help them as we transition into our future role."

Here's what else Human Resources is doing to help employees with the transition:

### Workforce Transition Assistance Guide

An electronic assistance guide to help employees take charge of their career, their family and their future is expected to be released in March.

### Workshops, Seminars

Brevard Workforce and the NASA Occupational Health Employment Assistance Program, or EAP, have planned a series of workshops and seminars about retirement planning, social security filing, unemployment eligibility, financial planning and personal wealth, as well as real estate planning.

### Job Fairs

Many companies have expressed interest in Kennedy's work force, so Human Resources will host at least two job fairs this year, an on-site job fair on June 24, and an off-site job fair on June 25. Both fairs will showcase companies with opportunities in Florida, as well as other states. Human Resources also will be working with Brevard Workforce to utilize their virtual job fair tool. An additional job fair is targeted for August.

### Resume Bank

All employees are encouraged to create and post an updated resume online to

## Workforce Transition Office

Office hours are from 8 a.m. to 4:30 p.m. Monday through Friday. The office will accept appointments from 7 to 8 a.m. and from 5 to 7 p.m. The office is in Room 1486A in Kennedy's Headquarters. For more information, call 321-867-4772.

See **OFFICE**, Page 3

# New capsule may ward off corrosion for good

By Steven Sicheloff  
Spaceport News

Luz Marina Calle and her team are developing a new weapon to ward off rust and corrosion on metals. If it works, Kennedy's launch pads, structures and NASA spacecraft will be better protected. So will cars, bridges, balconies and pretty much anything else that has metal in it.

The weapon is a microcapsule and when filled with the right chemicals, it will show exactly where corrosion is occurring and how severe it is. It also can protect against further corrosion and in some cases will be able to heal the damage.

It sounds like a tall order for a tiny structure too small to see with the naked eye. The microcapsule's strength comes from its numbers. Millions of them can be embedded in paint or other covering material. The chemicals stay safely inside the capsules until something breaks them open.

The capsules are tailored to break open when rust begins to form. Then the protection agents spread out and the metal healers can go to work. To draw attention

to the corrosion, some of the microcapsules would be filled with material that changes the color of the affected area. Just as rust shows where it is occurring, the chemical would highlight corrosion, but without the damage.

"This is (Kennedy)-developed technology," Calle said. "No one imagined you could use these capsules for corrosion control."

Perhaps it should not be a surprise that such innovation would come from a place some consider one of the most corrosion-prone in the world.

Calle leads a team of about a dozen scientists and engineers who make up NASA's Corrosion Technology Laboratory at Kennedy. It turns out Kennedy is the perfect place to study corrosion because it happens so quickly and with an intensity not found anywhere else in the world.

NASA chose to place its primary launch center on Florida's Atlantic coast for a host of reasons, including launch safety, orbital mechanics and because Florida doesn't typically freeze in the winter. There wasn't much



NASA/Jim Grossmann

Luz Marina Calle, lead scientist and principal investigator at NASA's Corrosion Technology Laboratory, shows a sample of metal covered with an experimental microcapsule coating at Kennedy's Space Life Sciences Laboratory. The microcapsules are too small to see with the naked eye, so researchers use an electron microscope to study their formation.

thought given to corrosion.

"Corrosion loves salt, humidity, heat and ultraviolet light and that's what we have here," Calle said.

Other parts of the world offer high levels of one or two categories, but Kennedy is unique because it has high levels in all categories.

Kennedy also subjects its structures to rocket exhaust, particularly the acidic residue from the space shuttle's solid rocket boosters. That's what did in what was thought to be a corrosion-resistant material, stainless steel.

"Traditionally, stainless steel is highly corrosion resistant, but you put that same stainless steel at the pad and it's gone, it just disappears," Calle said.

The practical effect of having such a severe threat is that it demands research and solutions.

That's why she applied to NASA as soon as she had the chance. With a background and Ph.D. in physical chemistry, she was teaching chemistry courses at a Randolph College in Virginia when she saw a flyer about NASA opportunities.

"I applied immediately,"

she said. Calle began working here in 1989, but there wasn't a dedicated corrosion research lab. That came from a reorganization in 2000 that established it as an area of applied research.

The agency had small-level research, including a test site with exposure racks for samples near the beach close to Launch Pad 39A. The site is still used today and no coating is approved for use at NASA without first going through 18 months on the test stand to prove it can handle the environment.

But today's research is far more extensive. It includes equipment such as salt fog chambers and electrochemical cells that can stress a metal or coating as severely as natural conditions, but much faster. That allows researchers to move ahead with promising ideas and move on from those that don't work well.

Some of the samples put up in the 1960s are still there, accompanied by a parade of other materials and coatings as they are developed and tested.

The ones that are still there are those protected by zinc coverings. But zinc can

be considered bad for the environment, so researchers don't want to use more of it than is needed. Again, this is an opportunity for microcapsules. If the zinc can be contained inside microcapsules, it will only be released where it is needed, limiting its environmental impact.

After researching better coatings, Calle said the team decided to seek "smart coatings." That led to the discoveries about microcapsules and how to use them for corrosion resistance. There has been great progress, but more steps await refinement.

The coverings with microcapsules inside have not been used yet in a large scale, so the coatings used on new structures at Kennedy, such as the mobile service tower built for a next-generation launcher, still use a zinc-based covering. That's why the tower structure looks light gray.

The microcapsules also are a technology that could be applied to just about anything. NASA is focusing on the structures such as service towers and the Vehicle Assembly Building. Spacecraft, too, are considered candidates for corrosion prevention.

Auto companies have contacted Calle about her research because they like the idea of a paint that would actively inhibit rust on their cars. Construction companies are intrigued by the possibility of covering structural metal with "smart coatings" that can prevent corrosion. With the microcapsules in place, designers could be confident that corrosion is being prevented. Plus, when inspections are needed, detection would be easier.

That kind of interest tells Calle that her team's applied research and development is likely to reach far beyond NASA.



NASA/Jim Grossmann

Jerry Buhrow with ASRC Aerospace studies a chemical mixture that will be made into microcapsules for testing. They are too small to be made individually, so researchers use a polymer mix to encapsulate the anti-corrosion chemicals.

# NASA, NOAA continue alliance with weather satellite

By Linda Herridge  
Spaceport News

NASA's partnership with the National Oceanic and Atmospheric Administration, or NOAA, will continue as the latest Geostationary Operational Environmental Satellite, GOES-P, launches aboard a Delta IV rocket from Space Launch Complex 37-B at Cape Canaveral Air Force Station, Fla.

"We've had a long-standing relationship with NOAA," said Andre Dress, the GOES N-P deputy project manager at Goddard Space Flight Center in Greenbelt, Md. "Benefits of developing these satellites in a series for NOAA include design cost savings, continuity and the ability to provide continuous improvements."

Beginning with GOES-A in 1974, NASA has launched close to 20 GOES weather satellites aboard Delta and Atlas rockets. GOES-P is the third in a series of three upgraded weather satellites built by The Boeing Co. in El Segundo, Calif. The others were GOES-N and O, designated 13 and 14 on orbit.

Though not directly involved in the GOES-P launch, NASA's Launch Services Program at Kennedy has been providing engineering expertise to NOAA for the satellite series since 1997.

"You get the best and brightest from both agencies working together," said Tom Wrublewski, NOAA's technical acquisition manager for the series. "Kennedy's Launch Services Program has helped to ensure the satellites meet

NOAA requirements."

Before older GOES satellites run out of fuel and cease to function, Dress said new and improved ones are launched so that there are always two functional satellites covering Earth's western hemisphere with a third standing by. GOES-13 will be activated in April, and GOES L and M, now called 11 and 12, are still operating. GOES-P, or 15 on orbit, will serve as a backup.

"The satellites orbit 22,000 miles above Earth in geosynchronous orbit, which is the same rate as Earth's orbit," Dress said. "Their primary purpose is to take images of Earth, including infrared pictures, and relay the data to NOAA to give meteorologists the information they need for weather predictions."

GOES satellites have been instrumental in helping to predict severe weather and the path of hurricanes, which is especially valuable for Florida and other coastal states.

Primary instruments on GOES satellites are an imager and sounder, built by ITT in Fort Wayne, Ind. They also contain a solar X-ray imager built by Lockheed Martin, dual magnetometers built by SAIC in Columbia, Md., and space weather monitor instruments built by Assurance Technology Corp. in Carlisle, Mass.

The satellites contain a search and rescue transmitter and a data collection system that monitors buoys in oceans, lakes and rivers to relay information about water height, wind speed and temperature.

Dress said NASA and NOAA are always planning for the future.



NASA/Jack Pfaller

NASA's GOES-P satellite awaits liftoff aboard a Delta IV rocket in the mobile service tower at Cape Canaveral Air Force Station's Launch Complex-37. GOES-P, the latest Geostationary Operational Environmental Satellite, was developed by NASA for the National Oceanic and Atmospheric Administration, or NOAA. GOES-P is designed to watch for storm development and observed current weather conditions on Earth. As of presstime, GOES-P was scheduled to launch March 4 at 6:17 p.m.

Looking ahead, GOES-R is expected to have a new instrument that takes pictures of Earth five times faster and will see more features in the atmosphere.

"The GOES-R series is in the works now," Dress said. "NOAA brought their engineers to the planning table, making this a true integrated project."

## From OFFICE, Page 1

better attract future business to the area. This tool also will allow Human Resources to connect outside employers with employees looking for new work. Resumes can be posted at [www.usajobs.gov](http://www.usajobs.gov) or [www.employflorida.com](http://www.employflorida.com). **Job-seeker Services**

There are several

services offered through the Aerospace Workforce Transition, or AWT, Program administered by Brevard Workforce in conjunction with educational institutions, federal agencies and community organizations.

In order to be eligible for these services, aerospace workers must register while they are still employed. Those who lose their jobs and have not registered with

[www.employflorida.com](http://www.employflorida.com) and the Brevard Workforce AWT Program will not be eligible for assistance. Employees interested in registering can go to: [www.launchnewcareers.com](http://www.launchnewcareers.com).

### Partnerships

Organizations in Florida that are working to provide opportunities include the Governor's Office, Space Florida, Workforce Florida,

Enterprise Florida, Brevard Workforce, Aerospace Career & Development Council, and Space Business Development Group. **Civil Service Available for New Work**

A tool designed to help civil service employees impacted by shuttle retirement is accessible through the Human Capital Information Environment, or HCIE. Supervisors will have the

option to input opportunities and compare interested applicants with the requirements of the job.

### Civil Service Training

In an effort to determine what training might be needed to retool Kennedy's work force to prepare for new missions, the NASA Human Resources Development Team will be conducting a future training needs assessment.

# SCENES AROUND KENNEDY SPACE CENTER



NASA

Three Kennedy training departments -- Emergency Response Team, NASA helicopter pilots and Fire/Rescue -- recently took part in the annual FAST Rope certification training for the Astronaut Search and Rescue Team at the SWAT training range. The UH-1 helicopters are used by the rescue team for transportation of personnel and equipment in the event of a space shuttle contingency. FAST roping is an alternate deployment method for rescue teams that cannot find a suitable location to land.



NASA/Mike Chambers

The Commission on Accreditation for Law Enforcement Agencies, or CALEA, visited Kennedy on Feb. 20-23 to reassess the continuing accreditation status of the NASA Federal Law Enforcement Training Academy, which is managed by Kennedy's Protective Services Office.



NASA/Amanda Diller

Just before midnight March 2, space shuttle Discovery began its slow roll from Kennedy's Vehicle Assembly Building to Launch Pad 39A atop a mobile launcher platform. The 3.4-mile trek took about six hours. Discovery and the STS-131 crew are targeted to launch to the International Space Station on April 5 at 6:21 a.m. EDT.



NASA/Amanda Diller

The crew members of space shuttle Discovery's STS-131 mission pose for a group portrait following the completion of their M113 training at Kennedy. From left are Mission Specialist Rick Mastracchio, Commander Alan Poindexter, Pilot James P. Dutton Jr., Mission Specialists Clayton Anderson, top, Dorothy Metcalf-Lindenburger and Stephanie Wilson, and Japan Aerospace Exploration Agency astronaut Naoko Yamazaki. An M113 is kept at the foot of the launch pad if an emergency egress from the vicinity of the pad is needed.



NASA/Amanda Diller

In Kennedy's Space Station Processing Facility, the multi-purpose logistics module Leonardo is prepared for its upcoming flight to the International Space Station. The seven-member STS-131 crew and Leonardo, which is filled with resupply stowage platforms and racks, are targeted to launch aboard space shuttle Discovery on April 5.



Photo courtesy of Boeing Co.

Boeing Co. workers participate in a bottle rocket contest Feb. 17 at Kars Park II to celebrate National Engineers Week. CAPPS Program Manager Mark Jager, right, took home first place with his Gator rocket, which displayed a perfect chute deployment and flew for 16.2 seconds. Second place went to John Ligas, third to Kevin Hoshstrasser, left, and fourth to Randy Carter.

# Former Heisman winner Charlie Ward inspires audience

Charlie Ward has dodged defensive linemen while playing quarterback at Florida State and has driven the lane as a point guard in the NBA. So, it goes without saying, that the 1993 Heisman Trophy winner knows what it takes to be a good teammate and ultimately, a winner.

“If we don’t empower those around us . . . we are not serving our purpose,” Ward said Feb. 26 at the African-American History Month Breakfast in Kennedy’s Space Station Processing Facility Cafeteria.

After inspiring remarks by Center Director Bob Cabana, the featured speaker galvanized the full house with a 30-minute talk that mixed humor with athletic experiences. A high school football coach in Houston, Ward focused on the future while emphasizing the importance of the past. The



NASA/Kevin O’Connell

Former Heisman Trophy winner and NBA player Charlie Ward addresses workers at the African-American History Month Breakfast in Kennedy’s Space Station Processing Facility Cafeteria on Feb. 26.

former New York Knicks player stressed accountability throughout his speech.

“Regardless of how good you think you are . . . you always will be accountable for your actions,” Ward said. “Our bottom line is directly related to our production and accountability.”

The event, sponsored by the Black Employee Strategy Team, or BEST, was part of Kennedy’s month-long observance of African-American history. This year’s theme was, “The History of Black Economic Empowerment.”

“It was wonderful how it all came together,” said Kennedy

BEST Chairwoman Kim Carter. “The entire center had a hand in this event and it really paid off today.”

Before Ward’s speech, attendees were treated to buffet breakfast and a slide show that included great African-Americans, such as Muhammad Ali, Dr. Martin Luther King and Louis Armstrong.

After Ward spoke, NASA’s Delores Abraham awarded the Evelyn Johnson Scholarship to three Florida high schools students: Alexandria Amos of Hagerty High School in Oviedo; Amber Porter of Titusville High; and Myles Sampson of Merritt Island Christian.

The scholarship is awarded

by BEST in remembrance of the dedication and commitment given by Johnson, who was a NASA employee for 28 years, a founding member of BEST and former Equal Opportunity Office deputy director. The scholarship is offered to BEST dependents, BEST members attending college or a university and Stay-In-School students to create opportunities for higher education and personal growth.

“The opportunity to plant a seed in the life of a student to further their education is what this is all about,” Carter said. “Hopefully they’ll be able to reciprocate and do it for the next generation.”



NASA/Kevin O’Connell

From left, high school students Alexandria Amos, Myles Sampson and Amber Porter are the 2010 recipients of the Evelyn Johnson Scholarship.

## African-American History Month event: ‘The History of Black Economic Empowerment’ panel discussion



NASA photos

The Black Employee Strategy Team, or BEST, hosts a panel discussion called “The History of Black Economic Empowerment” in the Operations and Checkout Facility Mission Briefing Room on Feb. 17. Guest panelists, from left, James Jennings, founder of Omega Plus and former deputy director of Kennedy; Dr. Leroy Gross, president and CEO of InoMed Inc. and Innovative Health Applications LLC; and Dr. Hubert Glover, president and co-founder of REDE Inc. Not pictured are Vince LoPresti, area manager for the U.S. Small Business Administration; and Mack McKinney, program manager of the KISS II contract and C&C International Computers and Consultants Inc. Kennedy attendees are pictured at right.

## Remembering Our Heritage: Women's History Month

# FEW celebrates 40 years of accomplishments

By Kay Grinter  
Reference Librarian

March is Women's History Month, and a great time to highlight some of the goals and accomplishments of the Space Coast Chapter of the Federally Employed Women, known as FEW, which celebrates its 40th anniversary this year.

FEW was established in the summer of 1968 by a group of federally employed women working in Washington, D.C., who were interested in carrying out the intent of Presidential Executive Order 11375, which added "sex" to other forms of discrimination prohibited in the federal government.

The organization evolved into one dedicated to the improvement of the quality of life of those in the federal service and now provides access to training programs, pertinent legislative information, career counseling, and leadership opportunities, in addition to professional and social networking.

Organization of a local chapter was spearheaded by women employed at Kennedy, including Mary Driver King. The "Space Coast" chapter was the 9th chapter established, receiving its charter in September 1970. Kay Morrison was elected its first president by the initial 17 members.

Some of the women who served as chapter president during the past 40 years gave the Spaceport News their perspective on FEW.

Joan Fosdick, president from 1977 to 1978, recalled that FEW helped woman in non-professional fields.

"FEW was instrumental in implementing an upward mobility program and establishing education

programs for women that allowed them to earn college degrees," Fosdick said. "By 1976, Specialty Training for Entry-Level Professionals, the STEP program, was incorporated into Kennedy's affirmative action plan."

Edna Shannon, formerly Edna Hooper, president from 1980 to 1981, also recalled the impact of FEW on women's educational opportunities.

"When I joined FEW, women represented only 19 percent of the work force," Shannon said. "There were very few women engineers with most working as secretaries, regardless of experience or degrees. Our FEW chapter worked closely with the Federal Women's Program, or FWP, to initiate the STEP program to help women obtain the necessary education and training for advancement."

Lou Price, president from 1981 to 1982, agreed.

"FEW made NASA more aware of women's potential, and it helped them to advance," Price said.

Today, FEW's two-day training seminar is held annually. Clara Anderson, president from 1982 to 1983, was program chair for

an early training program held off center.

"At the time we began offering training in 1978, women in the administrative and secretarial fields were not able to attend training away from the center to improve or add additional skills," Anderson said. "I spoke for the first time in front of a group of about 250 of my peers at an early off-center program. This new-found confidence enabled me to achieve a position greater than I ever imagined."

Although retired, Anderson still is a member of the chapter, and until recently, served on FEW's national board.

Karin Biega, president from 1987 to 1988, credits her involvement in the chapter with helping her progress from a GS-2 clerk in the clerical pool in 1982, to the position from which she retired in May 2003, a GS-13 management analyst in NASA External Relations.

"Knowing I could call any one of 30 to 40 Space Coast FEW members for support gave me the confidence to accept job assignments and challenges and know I'd

### Did you know?

Membership in FEW is open to federal and military personnel -- both men and women -- as well as those outside the federal sector who support FEW's goals and objectives. For more information, go to: [www.ksc.nasa.gov/groups/few](http://www.ksc.nasa.gov/groups/few)

be successful in whatever I took on . . . and I was."

Biega currently is chair of the Bylaws Committee on FEW's national board.

Jean Grenville, president from 1993 to 1994, also praised the influence of the chapter.

"I became a part of a great network of women who helped me in my job, with my skills, and in my training. I made many long-lasting friendships," Grenville said. "I only regret that we couldn't get everyone to see what this organization could do for them and many did not take advantage of a great opportunity to advance their careers."

Grenville, now retired, still is involved with the local chapter and produces its newsletter.

Becky Fasulo, president from 1995 to 1997, found that being a member of the chapter continues to benefit her in retirement.

"I am not only a

member of the Space Coast Chapter, but also a member of FEW's national board as the vice president for Membership and Chapter Organization," Fasulo said. "Working on the national level has opened up many avenues for me, which includes presenting workshops across the country."

Vickie Hall, president from 1998 to 2000, still is working in NASA IT's End User Services Office at Kennedy and reported that service to the community has become very important to the chapter.

"Last year, we spearheaded Kennedy collection drives for Make-A-Difference Day and the Salvation Army's Stocking Stuffing Drive for families in need," Hall explained. "We also collected 1,270 Yoplait yogurt lids for the Save Lids to Save Lives Campaign."

Marlene Satterthwaite, who retired from NASA in 2006, is the current president. She added to the list of service projects undertaken by the chapter.

"We also help protect our county and environment through the Keep Brevard Beautiful, Adopt-a-Shore program and donations to the Merritt Island (National) Wildlife Refuge," Satterthwaite said. "Our educational scholarship program has benefited many Kennedy workers, their children and Brevard Community College students."

"We are truly an organization with a purpose and a big heart."



Former FEW presidents gather in 1999, including Betty Hudick, Millie King, Mae Walterhouse Morris, Kay Morrison Whittimore, Edna Shannon, Joan Fosdick, Clara Anderson, Karin Biega, Pam Steel, Carole Schiller, Lou Price, Becky Fasulo, Zoa Dodd, Vickie Hall and Jean Grenville.

Photo courtesy of FEW/1999

### NASA Employees of the Month: March



NASA

Employees of the month for March are, from left: Janine Captain, Engineering Directorate; William Denis, Engineering Directorate; Jacklyn Norman, Procurement Office; Nicholas Riviuccio, Center Operations; and Deborah Ward, Launch Vehicle Processing Directorate. Not pictured are, Dawn Oliver, Chief Counsel; Carol Valdes, Information Technologies and Communications Services; Ronald Best, Safety and Mission Assurance Directorate; and James Ristow, Launch Services Program.

### Phoenix Mars Lander surface mission discussion

Barry Goldstein, project manager at NASA's Jet Propulsion Laboratory, will talk about the Phoenix Mars Lander surface mission in the Operations and Checkout Facility's Mission Briefing Room on March 11 at noon. The Phoenix mission launched from Cape Canaveral Air Force Station on Aug. 4, 2007, and successfully landed north of Mars' arctic circle May 26, 2008. Not only was Phoenix the first mission to land in the arctic region, it was the first mission to ever directly detect water on the Red Planet. For more information, contact Jacqueline Martin at [Jacqueline.M.Martin@nasa.gov](mailto:Jacqueline.M.Martin@nasa.gov) or 321-867-3731.

### Looking up and ahead . . .

March 4	Launch/CCAFS: Delta IV, GOES-P; Window 6:17 to 7:17 p.m. EST
March 22	Launch/CCAFS: Falcon 9/Dragon; Window 11 a.m. to 3 p.m. EST
Targeted for April 5	Launch/KSC: Discovery, STS-131; 6:21 a.m. EDT
April 19	Launch/CCAFS: Atlas V, OTV; 10 p.m. to 2 a.m. EDT
May 17	Launch/CCAFS: Delta IV, GPS IIF-1; 3:19 to 3:37 a.m. EDT
Targeted for May 14	Launch/KSC: Atlantis, STS-132; 11:58 a.m. EDT
No earlier than July 21	Launch/CCAFS: Falcon 9/Dragon, NASA COTS - Demo 1; TBD
Targeted for July 29	Launch/KSC: Endeavour, STS-134; 7:51 a.m. EDT
Targeted for Sept. 16	Launch/KSC: Discovery, STS-133; 11:57 a.m. EDT
Targeted for Nov. 17	Launch/CCAFS: Atlas V, GPS IIF-2; TBD
No earlier than Nov. 22	Launch/VAFB: Taurus, Glory; TBD
Aug. 5, 2011	Launch/CCAFS: Atlas V, Juno; TBD
Aug. 15, 2011	Launch/Reagan Test Site: Pegasus, NuSTAR; TBD
Sept. 8, 2011	Launch/CCAFS: Delta II Heavy, GRAIL; TBD
To Be Determined	Launch/VAFB: Delta II, Aquarius / SAC-D Satellite; TBD
To Be Determined	Launch/VAFS: Delta II, NPP; TBD
No Earlier Than October 2011	Launch/CCAFS: Atlas V, Mars Science Laboratory; TBD

# WORD ON THE STREET

Have you made any special plans concerning the final four space shuttle launches?



"Yes. I have a disabled husband and I'm going to try and get him out here on Kennedy for a launch."

Pauline Shook, with NASA

"I have a daughter in Seattle who's going to bring my grandkids . . . two sets of twins."

Tim Thurston, with EG&G



"I'm making sure my daughter and grandchildren in Wisconsin watch it live."

Karen Marshall, with NASA Exchange

"I'd really like to be able to get my family on center so they can see at least one shuttle launch up close."

Tom Boarman, with Abacus Technology Corp.



"I normally don't make a concerted effort, but I am now . . . I want to watch these final four."

Anna Maria Ruby, with NASA



John F. Kennedy Space Center

## Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted **three weeks** before publication to the Media Services Branch, IMCS-440. E-mail submissions can be sent to [KSC-Spaceport-News@mail.nasa.gov](mailto:KSC-Spaceport-News@mail.nasa.gov)

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Editorial support provided by Abacus Technology Corp. Writers Group.  
NASA at KSC is on the Internet at [www.nasa.gov/kennedy](http://www.nasa.gov/kennedy)  
USGPO: 733-049/600142